M. Ross

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J. BAYLOR ROBERTS

SALVAGED ARMY NYLON SERVES A PEACEFUL PURPOSE IN POSTWAR BAVARIA

In a youth center set up near Munich by the United States Air Force, girls of Bavaria (Bulletin No. 1) live up to their reputation for thrift. From nylon yarn salvaged from shrouds of American Army parachutes, they are knitting socks. The poster on the wall (right) reminds United States service personnel of their responsibility in the phrase "After you're gone They Will Run the Show."

Bulletin No. 1, January 16, 1950

Rumors Hint Bavaria and Austria May Merge

REPORTS state that certain groups in the West German State of Bavaria wish to unite with Austria. At present Germany's southernmost portion is separated from Austria by a boundary line which twists and curves its way through the Alps. Baden See (Lake Constance) seals the west end of the frontier and Czechoslovakia blocks the east.

Along Bavaria's entire southern border rises a broad band of mountainous terrain that merges with higher Alpine country in Austria and Switzerland. In the early days of nazi growth and terror, this frontier of snow-topped peaks and glaciers, of mountain lakes and pine forests, offered many refugees an escape route of striking scenic beauty but great peril.

Rimmed by Highlands

Bavaria ranked after giant Prussia as the second-largest state of prewar Germany. Counting its detached fragment, the Palatinate, west of the Rhine, it had an area of some 30,000 square miles (approximately that of South Carolina), and its prewar population was more than 8,000,000.

The greater part of Bavaria is high plateau, almost completely hemmed in by greater heights. Broad hills separate it from Germany's northern plains. West of Bavaria rise the Black Forest highlands, fringing the trenchlike valley of the upper Rhine. To the northeast extend the Bohemian Forest uplands.

Nürnberg, important communication center of northern Bavaria, was long the nazis' chosen convention city. About as far south of the Danube as Nürnberg is north (40 miles), lies Munich (München). This transportation hub of southern Bavaria was termed by Hitler's followers "capital of national socialism." Munich's central location brought severe bomb damage during the war.

Many leading nazi officials owned fortress homes in the lake and mountain country of southern Bavaria and near-by Austria. Most famous was Hitler's mansion on the slopes of Obersalzburg, near the town of Berchtesgaden in the southeasternmost corner of Bavaria. A second retreat for the No. 1 nazi stood atop a 6,000-foot mountain in the neighborhood. It was said to be accessible only by means of an especially constructed electric elevator that rose inside the heart of the mountain.

Country Homes Dot Berchtesgaden Area

Berchtesgaden and the country around it, which had become more or less resort headquarters for high-ranking German officials, was once a favorite holiday area for the old royal family of Bavaria. Magnificent scenery, summer and winter sports and recreation, made this region in peacetime one of Germany's most popular vacation spots.

Within a radius of about 50 miles of Berchtesgaden stood the country homes of many of Hitler's satellites. Imposing, and presumably safe, they rose on mountainside or along the shores of lakes Chiem and Tegern on the German side of the border, and on Lake Fuschl in Austria. In the vicinity

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WILLARD R. CULVER

SOON NORTHERN ARKANSAS'S NORFORK DAM AND RESERVOIR WILL HAVE A COMPANION AS NEAR-BY BULL SHOALS PROJECT TAKES SHAPE

This lake backs into Missouri in the heart of the Ozarks. Bull Shoals Reservoir likewise will cover lands of both states. Three towns will be relocated as the water rises. The dams are part of a U. S. Army Engineers plan for controlling the White River and providing electricity (Bulletin No. 5).

Bulletin No. 2, January 16, 1950

Egypt Mysteries Further Unveiled at Saqqara

THE patchwork story of ancient Egypt, gradually emerging through dusty finds in tomb, temple, and pyramid, is richer by ten more mummies, discovered in deep underground rock-walled tombs at the Saqqara (Sakkareh) cemetery of Egypt's old capital, Memphis.

This burial ground near the long-vanished fountainhead of early Egyptian power already has yielded a rich store of detail for historians. On the Nile about 15 miles south of Cairo, it saw the beginning, in 1930, of epoch-making searches into the secrets of the First and Second Dynasties of 5,000 years ago.

Mummies of Scribe and Wife Found

Archeologists' "digs" at Saqqara have revealed complex patterns of royal and other burial structures, significant inscriptions, and thousands of personal articles hinting of life during various periods of Egyptian development. The recently explored tombs, situated near the famous and far older Step Pyramid, have been attributed by the experts to the Twenty-Sixth Dynasty, about 600 years before Christ.

The tombs and their valuable contents were turned up in connection with the extensive pyramid project of the Egyptian Antiquities Department. One of the mummies has been identified as a scribe in the temple of the god Ptah. Another is believed to have been his wife, whose wrappings contained a golden heart buried with her.

The scribe's profession, which involved the recording of important business, cultural, and religious matters, was an honorable one among the highly organized Egyptians.

Twenty-five hundred years ago, the scribe whose mummy has come to light belonged to an outstanding but short-lived period in Egyptian history. Behind it stretched an era of submission to Ethiopian and Assyrian invaders, and not far in the future were the assaults of the Persians that led to the long loss of independence.

First Pyramid Built

Meanwhile, the people of the Twenty-Sixth Dynasty enjoyed not only considerable peace and trade with their Mediterranean neighbors, but a striking religious and artistic revival. For inspiration they looked far back to the Old Kingdom of the pyramid builders of the heyday of Memphis.

The first of the great structures was King Zoser's (Djoser's) Step Pyramid at Saqqara. The oldest free-standing stone structure known, it was a forerunner of the Great Pyramid of Giza raised by Khufu (Cheops) outside Cairo (illustration, next page).

The chain of royal pyramids along the Nile was built to preserve the dead and provide them with their needs and comforts in resurrection. Nearly all have been found looted by grave robbers. The fact that the riches of the Tut-ankh-Amun burial place had been undisturbed was one of the reasons for the excitement, in 1922, when the find was made below the Valley of the Tombs of the Kings at Thebes.

is the village of Oberammergau, where the Passion Play of the Crucifixion of Christ again draws spectators from all over the world as it did in pre-war days.

Before the war nearly half of Bavaria's fertile soil was under cultivation (illustration, below). Grain, potatoes, and grapes were the chief crops. Thousands of acres were also set out to tobacco and hops.

Before World War I and the rise of the nazis, Bavaria was a monarchy in the Prussian-dominated German Empire. Its people (illustration, cover), characterized as easygoing, art- and pleasure-loving, were strikingly different from the militaristic and more disciplined Prussians of the north. Their languages, customs, and even their religions were different.

Yet it was in Bavaria, in 1919, that the nazi (national socialist) dictatorship was born and came to power, following bitter political struggles between opposing factions.

NOTE: Bavaria may be located on the National Geographic Society's map of Germany and Its Approaches. Write the Society's headquarters, Washington 6, D. C., for a price list of maps.

See also, "With Uncle Sam and John Bull in Germany," in the *National Geographic Magazine* for January, 1949; "Uncle Sam Bends a Twig in Germany," October, 1948; "What I Saw Across the Rhine," January, 1947; and "War's Wake in the Rhineland," July, 1945*. *(Issues marked with an asterisk are included in a special list of Magazines available to teachers in packets of ten for $1.00)*

J. BAYLOR ROBERTS

ON THIS BAVARIAN FARM NEAR OBERAMMERGAU THE HAY HARVEST IS A FAMILY AFFAIR

Atom Bomb Again to Blast Battered Eniwetok

WHEN the history of the 20th century's fifth decade is written, Eniwetok atoll will take top rank among the most bludgeoned land spots in the Pacific. Nature's typhoons, and man's bombs of World War II, and post-war atomic weapon tests have pooled their awesome power to put it there.

Eniwetok, soon to feel atom blasts again in its role as proving ground for the Atomic Energy Commission, has already been battered by all three of these forces in the past decade.

1944 Bombardment Destroyed Trees

This northwest outpost of the scattered Marshall Islands (map, next page) lies 2,725 miles southwest of Honolulu and about the same distance southeast of Tokyo. Two years ago when its part in the atomic program was announced, Eniwetok was the home of 138 people. A few weeks before the first secret tests of the atom bomb at Eniwetok in the spring of 1948, the islanders were moved to Ujelang, 150 miles southwest of Eniwetok.

They were glad to leave as the main islets of the atoll containing Japanese installations had been razed to their coral bases and the trees destroyed by bombardment in mid-February, 1944. That attack resulted in a quick conquest of Eniwetok by United States amphibious forces.

As to Pacific windstorms, Eniwetok takes its share of the typhoons that tend to form among the Marshalls almost annually in late August. They regularly work some changes in the sand-strip islets of the atolls. Sometimes they blow so hard that, in a few hours, they erase an islet or create a new one by piling up sand on a coral base.

Eniwetok shows some 30 small sand-strip isles along the ring, 70 miles in circumference, that forms the low atoll. Eniwetok islet, at the southeast arc of the atoll, is larger than the others in all its dimensions. It is two and a half miles long, about 700 yards at its widest point, and its greatest altitude is 16 feet—subject to change.

Could Shelter an Entire Fleet

Parry, Japtan, Ruunitto, and Engebi are names of smaller Eniwetok sand strips. These all extend along the east side, built up by the easterly winds that prevail from October to June.

The big blue-green lagoon, 23 miles across and nearly 400 square miles in area, is deep enough and broad enough to serve as an anchorage for a large fleet. There is an excellent deep entrance between the islets of Parry and Japtan.

Bikini, where the first atomic bomb tests were conducted after the war, is Eniwetok's neighbor. It lies 190 miles to the east. Both are not quite 12 degrees north of the Equator. The natives of both islands, like all Marshallese, were good fishermen and navigators. They lived by fishing, raising pigs and chickens, and picking the coconuts that nature raised for them. The soil-less sand gave them little chance to cultivate vegetables. The Bikinians now live on Kili in the southern part of the Marshall group. They were first transported to Rongerik to clear Bikini for the bomb tests,

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Such a discovery is now hoped for in connection with the work going on at the "Blunted Pyramid" of Dahshur, just south of Saqqara. In this imperfect pyramid, according to evidence turned up by the same archeologist who directed the recent excavations of the Twenty-Sixth Dynasty tombs, may be a hidden chamber holding intact the body and treasure of King Snefru, founder of Egypt's remote Fourth Dynasty.

NOTE: Saqqara may be located on the Society's map of Bible Lands and the Cradle of Western Civilization.

For additional information on Egypt and archeological finds in the region, see "Sinai Sheds New Light on the Bible," in the *National Geographic Magazine* for December, 1948; "American Fighters Visit Bible Lands," March, 1946*; "New-Old Battle Grounds of Egypt and Libia," December, 1940; "By Felucca Down the Nile," April, 1940; "Change Comes to Bible Lands," December, 1938; and "Bedouin Life in Bible Lands," January, 1937.

See also, in the GEOGRAPHIC SCHOOL BULLETINS, April 25, 1949, "'Khamsin' Brings Spring to Egypt"; and "U. S. Onion Goes to Aid of Egypt's Farmers," April 11, 1949.

B. ANTHONY STEWART

ANCIENT EGYPT'S MONUMENTS AFTER 45 CENTURIES STILL OVERSHADOW EVERYTHING ON THE NILE

At the right rises the Great Pyramid of Khufu (Cheops). Gazing over the cameleers is the Sphinx with its body of a lion and face of a king carved from living rock. Behind it stands the Second Pyramid. At Saqqara, a few miles south, earlier pyramids were built.

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Bulletin No. 4, January 16, 1950

Insects Are Welcome Items on Jungle Menus

FRIED ants instead of fried eggs for breakfast? The suggestion may not appeal to Westerners whose homes are surrounded by farms and often near a corner grocery. But plenty of people in remote, uncultivated areas of the world not only find insect food a necessity but frequently consider it a great delicacy.

The Shangaan natives of the Transvaal and the Rhodesias, according to a South Africa government official, would have starved if they had not eaten the ants, caterpillars, beetles, and locusts which were available in their jungles and grasslands. Fried ants are said to taste somewhat like crisp sweet-and-sharp bacon. They are high in vitamin content.

Roasted Grubs Are Tasty Emergency Ration

During the Second World War many United States military manuals emphasized the value of insects as vital food for men stranded in the tropical wilderness.

The large white grubs of palm weevils and other beetles were described as quite palatable when broiled over an open fire or roasted between hot rocks. They are said to taste like oysters.

Toasting large grasshoppers and cicadas on a stick was also recommended to the grounded flyer or the soldier lost in the jungle who might find it necessary to live on a menu of bugs à la mode (minus the "mode").

Ant eggs and larvae are quite nutritious when enough of them can be collected to make a hearty mouthful. So are termites, found in hard, cone-shaped shelters, or picked up in open spots after a heavy rainfall.

It is not necessary to cook insect food. Primitive peoples often prefer it raw. Raw or cooked, termites are said to taste like roasted chestnuts. Boiled grasshopper, which turns red like lobster, is reminiscent in flavor of that popular shellfish.

Grasshoppers a Favorite Indian Dish

Either through necessity or from choice, men have eaten insects from the earliest times. The Bible tells of the locust and wild-honey diet of John the Baptist, and how Moses handed down to the children of Israel the Lord's favorable ruling on locusts, beetles, and grasshoppers.

The American Indians long mixed ground grasshoppers with their acorn meal. They dried the creatures and hoarded them for winter provisions. Certain tribes in the United States Southwest and Mexico, as well as in South America (illustration, next page), still use insects for food, including numerous aquatic varieties. They have a number of different methods of preparing them. One popular dish is a baked loaf of mashed and kneaded water flies.

From the jungles of Africa to the wilds of central Australia, groups of aborigines and semicivilized tribes find necessary nutrition in such insects as crickets, silkworms, grasshoppers, caterpillars, termites, beetles, moths, and water bugs of all kinds. Both the adults and the young are

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but that isle was found to have occasional droughts and a fire had destroyed the trees.

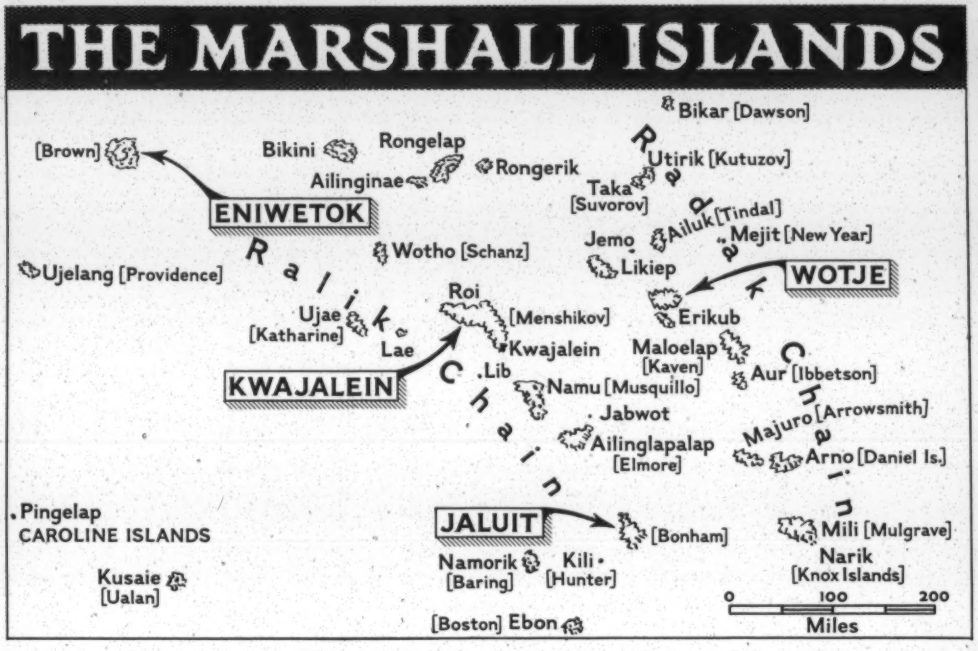
Kwajalein, Jaluit, Majuro, and Wotje are other Marshall atolls whose names were made familiar by the war in the Pacific. The group's 32 or more larger atolls and nearly 900 reefs are divided fairly evenly between the Radak (or Sunrise) Chain on the east and the Ralik (or Sunset) Chain on the west. Their total prewar population was about 10,000. The total land area is about 70 square miles.

The Marshalls were probably visited by Saavedra in 1529. They take their name from the British captain who, with Gilbert, explored the southern atolls in 1788. As Great Britain's ally, Japan ended the three decades of German control at the beginning of World War I, and was assigned to administer the group for the League of Nations in 1920. The Marshall Islands are now wards of the United States under United Nations trusteeship.

NOTE: Eniwetok may be located on the Society's map of the Pacific Ocean, on which it appears in a large-scale inset.

For further information, see "Pacific Wards of Uncle Sam," in the *National Geographic Magazine* for July, 1948; "Farewell to Bikini," July, 1946; "American Pathfinders in the Pacific," May, 1946*; "Our Military Wards, the Marshalls," September, 1945; and "Hidden Key to the Pacific," June, 1942*.

See also, in the GEOGRAPHIC SCHOOL BULLETINS, February 14, 1949, "Bikinians Find Productive Home on Kili."



ENIWETOK, ATOM TEST GROUND, TOPS MARSHALLS' RALIK CHAIN

Scalloped edges of the Marshall atolls dot the Pacific in two chains slanting from southeast to northwest across nearly 700 miles of ocean. Nowhere do they rise more than 40 feet above the sea. Coconuts, breadfruit, bananas, taro, and fish are the chief items on the menus of the islanders, of whom there were about 10,000 before the war.

1949 Engineering Emphasizes TVA Methods

THE world-wide spread of the TVA idea of large-scale water control was an outstanding aspect of engineering and construction during 1949.

Many nations, including Afghanistan, Brazil, India, Mexico, Portugal, and Yugoslavia, started or extended dam projects. In the United States, Tennessee's Watauga Dam turned its first power into the TVA system and the state's Dale Hollow Dam was completed, adding to the vast expanse of the new "Great Lakes of the South."

U. S. Dams Near Completion

Australia began the Darling River Control Project; Afghanistan's "KVA" completed its first dams in a plan to harness the Kabul River; the Gangapur Dam in Bombay Province and the Chambal Dam in the Madhya Bharat Union showed the trend in India.

In the United States the Colorado River's Davis Dam began backing water 67 miles up to the base of the Hoover Dam. The Fall River Dam in Kansas was finished and Bull Shoals in Arkansas moved far along (illustration, inside cover). Grand Coulee's tenth generator whirred into action, making it the greatest single electric-power producer in the world.

One difficult phase of building the two-level, three-lane Mystic River Bridge—more than two miles long, connecting Chelsea and Boston—was finding homes for 3,500 persons displaced by the project. Chicago completed the Bataan-Corregidor Memorial span over the Chicago River.

A 4,000-foot, 34-pier bridge now carries traffic 135 feet skyward in crossing the Chesapeake and Delaware Canal at Chesapeake City, Delaware. It is a link in the proposed north New Jersey-Virginia superturnpike to by-pass Philadelphia, Wilmington, Baltimore, and Washington.

Washington Opens First Elevated Road

In Germany, bridges at Mainz and Bonn progressed in the program for restoring the 18 war-damaged Rhine bridges. A war-emergency bridge used on the Thames in London emigrated to Bulawayo, Northern Rhodesia, to span the Kafue River. In British Honduras the Hawksworth Bridge completes a vital 94-mile route from northern Guatemala to the Caribbean Sea.

There were notable highway developments. New York's lower east side has a new Roosevelt elevated roadway. The Whitehurst Freeway along the Potomac is Washington's first elevated motor road.

A 1,200-foot, twin-bore tunnel completes the Wilbur Cross Parkway's by-pass of New Haven. Tedious drilling on the longest vehicular tunnel in the world, eight miles under Mt. Blanc on the France-Italy border, slowed progress on the project that will shorten the Rome-to-Paris highway distance by 107 miles.

Warsaw calls its new drive—four miles of wide boulevard, including a bridge, tunnel, viaducts—the largest construction job in any European city since the war. Mexico's Christopher Columbus Route from El Paso,

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consumed, raw or cooked; whole or pulverized; made into hot sauces and sirupy concoctions for the local version of pancakes; or mashed up in water for use as a beverage.

The natives of the Australian bush, starved for sweets, are especially delighted when they discover a cache of honey ants. These strange insects are set apart and fed by their fellows as literal storage casks for honey. Eventually they become tiny balls of the sticky, sweet substance. The aborigines munch them with great enthusiasm whenever they are fortunate enough to find them.

NOTE: For additional information on insects, see "An Insect Community Lives in Flower Heads," in the *National Geographic Magazine* for September, 1946; "Stalking Ants, Savage and Civilized" and "Work and War in the World of Ants" (18 color paintings), August, 1934; and "Exploring the Wonders of the Insect World," July, 1929.

See also, in the GEOGRAPHIC SCHOOL BULLETINS, February 2, 1949, "Midwest Farmers Fear Bad Grasshopper Year"; and "Like Man, Not All Ants Are Industrious," January 31, 1949.

T. D. CARTER

AN ARECUNA INDIAN BOY ANTICIPATES A LUSCIOUS GRASSHOPPER MORSEL

In the mountainous region where Brazil, British Guiana, and Venezuela meet, the grasshopper supplies both sport and food. To this Arecuna Indian boy who lives in the Mount Roraima country, a grasshopper hunt is the equivalent of the North American boy's fishing trip—it provides him with amusement and a meal. Strung on a stem of sedge are the spoils of the chase—a tassel of the hopping insects. Before eating it, he will pick off its hind legs so that it won't kick as he swallows it.

Texas, to Guatemala has stimulated hotel and "motel" building at a dozen towns and contributed to the growth of Acapulco, west-coast resort.

Oil finances a 400-mile railroad which American engineers are building from Dammam, Persian Gulf port, west across Saudi Arabia to Riyadh. Israel inaugurated service on its Haifa-Tel Aviv line. Stockholm and Buenos Aires expanded their subway systems.

New airports were opened for Buenos Aires, Argentina, and Lima, Peru. Rio de Janeiro finished two bridges which eliminate the ferry trip to its island airport at Galeao. Panama, El Salvador, Puerto Rico, and Southern Rhodesia also completed airports.

Canals dredged between Brownsville and Corpus Christi, Texas, completed the continuous 1,308-mile Gulf Intercoastal Waterway from Appalachicola, Florida, to the Rio Grande, and a water freight route from Canada to Mexico via Chicago. The five-year task of shortening and deepening the Suez Canal (illustration, below) to admit big oil tankers began. So did work on Romania's canal project aimed at cutting down the lower Danube-Black Sea shipping route.

The United Nations held ceremonies in New York in October to mark completion of the steelwork on the 39-story permanent headquarters.

EISENSTAEDT FROM PIX

ARAB SAILS CAST SPEARHEAD REFLECTIONS ON THE CALM WATERS OF THE SUEZ CANAL, CURRENTLY DISTURBED BY OPERATIONS TO DEEPEN THE CHANNEL